

## DIABETES CARE



### Screening for coeliac disease recommended in type 1 diabetes

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

- Determining the prevalence of coeliac disease in children with type 1 diabetes and assessing the clinical effects of a gluten-free diet in this population were the two aims of this Danish study.
- There were 269 participants in this 2-year population-based study who had a median age of 10.9 years and a median duration of diabetes of 3.1 years.
- The study recorded the children's height, weight, coeliac disease symptoms, blood test results and results from an intestinal biopsy.
- The study found that children with type 1 diabetes and coeliac disease were significantly shorter ( $P<0.001$ ), weighed less ( $P=0.002$ ) and were diagnosed at an earlier age ( $P=0.042$ ) than those without coeliac disease.
- The prevalence of coeliac disease in the studied population was 12.3%.
- In cases of symptomatic coeliac disease where a gluten-free diet was followed after diagnosis, the study reports that the individuals experienced an increase in their general well-being, and measurements taken showed they had a significant gain in weight ( $P=0.002$ ).
- The authors conclude by recommending that children with type 1 diabetes undergo repeated and regular screening for coeliac disease.

Hansen D, Brock-Jacobsen B, Lund E et al (2006) Clinical benefit of a gluten-free diet in type 1 diabetic children with screening-detected coeliac disease: a population-based screening study with 2 years' follow-up. *Diabetes Care* **29**: 2452-6

## To screen or not to screen?



Adrian Scott, Consultant Physician in Diabetes and General Medicine, Northern General Hospital, Sheffield

Are diseases detected by screening the same as those diseases detected by presenting with symptoms? This is one of the key questions in the debate surrounding the growth of the medical screening industry. Conditions like primary hyperparathyroidism and coeliac disease seem to have a spectrum of severity and the argument goes that if you screen for an asymptomatic version of such diseases all you do is detect the milder forms that probably do not require treatment.

My problem is that for a decade or more I was the camp (as in tents!) doctor on the *British Diabetic Association's* summer holidays and spent time with some very unhappy kids who not only had to avoid sugar, prick their fingers four times a day, inject themselves at least twice and eat at least six times, but a select few also had to eat some of the most disgusting cardboard in the guise of gluten-free bread and biscuits. Although surrounded by colleagues who felt that screening for coeliac disease was the best thing since sliced

bread, I would 'forget' to put the latest antibody test on their annual review bloods provided they were symptom-free.

Was I wrong? Perhaps...

The Danish study summarised on the left suggests that clinical improvements in weight, haemoglobin and ferritin levels were seen in those with type 1 diabetes and symptomatic coeliac disease adhering to a gluten-free diet (GFD) compared to children with type 1 diabetes without coeliac disease. A few were asymptomatic and refused a GFD but, interestingly, a few only recognised their symptoms when diminished after initiation of a GFD.

While the case for screening for coeliac disease grows stronger (and, indeed, is undertaken by most if not all paediatric diabetes units in the UK) I am still not convinced that all those who are asymptomatic need a GFD. Clearly those with symptoms have the most to gain but for the asymptomatic is there still a case for just monitoring growth and haematological parameters until they are through those turbulent adolescent years rather than imposing another restriction on their already complex lives? Perhaps...

## DIABETIC MEDICINE



### Overweight adults with type 1 diabetes benefit from metformin

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓✓
WOW! factor	✓✓✓

- Overweight adults ( $BMI>27\text{ kg/m}^2$ ) with type 1 diabetes were studied in an investigation into the effects of metformin on blood glucose control and insulin dose.
- In this randomised, double-blind, cross-over study, the participants were followed for a 4-week run-in

period, a 16-week study period, a 4-week wash-out period, followed by another 16-week study period. In each of the two 16-week study periods the participants received either metformin or placebo in a random order.

- After 16 weeks metformin significantly decreased  $HbA_{1c}$  compared to baseline and placebo ( $P<0.005$  in both cases).
- After 16 weeks of metformin therapy the total daily insulin dose had lowered by an average of 50 units compared to baseline ( $P<0.05$ ) and 58 units compared to placebo ( $P<0.05$ ).
- Due to the improvements in blood glucose control and the reduced need for insulin, the authors concluded that metformin was beneficial to this studied group of patients.

Khan ASA, McLoughney CR, Ahmed AB (2006) The effect of metformin on blood glucose control in overweight patients with type 1 diabetes. *Diabetic Medicine* **23**: 1079-84

# Type 1 diabetes

## DIABETIC MEDICINE



### Adolescents with type 1 diabetes have a healthier diet than those without

Readability	✓✓✓✓
Applicability to practice	✓✓
WOW! factor	✓✓

**1** This Swedish study looked at the food questionnaires completed by 174 adolescents with type 1 diabetes, 160 healthy controls matched by age and sex, and the 4-day food diaries of 38 randomly selected participants with type 1 diabetes.

**2** There were no significant differences in the frequency of consuming fats; vegetables; bread and cereals; and milk and dairy products between the group with and the group without diabetes.

**3** The young people with diabetes were significantly more likely to drink fruit juice and eat fruit ( $P=0.006$ ), potatoes and root vegetables ( $P<0.001$ ), meat, fish and eggs ( $P<0.001$ ), and ordinary sweets ( $P<0.001$ ).

**4** Members of the control group were more likely to eat sugar-free sweets ( $P<0.001$ ) and snacks ( $P=0.020$ ).

**5** Where detailed food diaries of the participants with diabetes were looked at, they showed that on average the number of meals eaten per day was five.

**6** They were also found to consume more than the recommended national and international levels of saturated fat but less than the recommended amounts of fibre.

**7** The adolescents with diabetes who had an  $HbA_{1c} < 7.0\%$  were those who consumed less fat and more carbohydrates than those with an  $HbA_{1c} > 8.5\%$ .

**8** The conclusion of the study states that adolescents with type 1 diabetes need dietary education that focuses more acutely on balancing energy intake and expenditure, to prevent an increase in weight, and on understanding the different kind of fats in order to minimise the risk of CV complications.

Lodefalk M, Aman J (2006) Food habits, energy and nutrient intake in adolescents with Type 1 diabetes mellitus. *Diabetic Medicine* **23**:1225–32

## JOURNAL OF INTERNAL MEDICINE



### Apolipoprotein B linked to increased mortality in type 1 diabetes

Readability	✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓✓

**1** Using a cohort of 165 people with type 1 diabetes, the authors set out to investigate the association between apolipoprotein B and mortality over 15 years.

**2** All-cause mortality, cardiac-related mortality and ischaemic heart disease were significantly elevated where apolipoprotein B levels were higher ( $P=0.029$ ,  $P=0.047$ ,  $P=0.029$ , respectively).

**3** Apolipoprotein B is easy to measure and should be used to assess mortality risk in people with type 1 diabetes.

Stettler C, Suter Y, Allemann S et al (2006) Apolipoprotein B as a long-term predictor of mortality in type 1 diabetes mellitus: A 15 year follow up. *Journal of Internal Medicine* **260**: 272–80

## DIABETIC MEDICINE



### Elevated risk of premature stroke in those with type 1 diabetes

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! factor	✓✓✓

**1** All hospital admissions in Sweden for people aged 15–49 years who had suffered a stroke were examined.

**2** Age-adjusted stroke risk in people without diabetes was found to be 8.0 per 100 000 person years and 130.4 per 100 000 in people with type 1 diabetes.

**3** The data highlights the necessity of thorough and additional measures to reduce stroke risk in type 1 diabetes.

Sundquist K, Li X (2006) Type 1 diabetes as a risk factor for stroke in men and women aged 15–49: a nationwide study from Sweden. *Diabetic Medicine* **23**:1261–7